

Title (en)  
Cylinder head structure

Title (de)  
Zylinderkopf

Title (fr)  
Culasse

Publication  
**EP 0939215 A2 19990901 (EN)**

Application  
**EP 99103380 A 19990222**

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Abstract (en)  
A cylinder head structure for an engine, including grooves (18; 12a) in a top surface (2; 2a) of a cylinder head body (1; 1a) such that they surround an associated a fuel injection nozzle hole (11; 8a). Valve tappet guide holes (6; 3a) are also formed in the top surface (2; 2a) of the cylinder head body (1; 1a) around each of the fuel injection nozzle holes (11; 8a). The grooves (18; 12a) connect the adjacent tappet guide holes (6; 3a) and surround the associated nozzle or spark plug hole. Cylinder head bolt holes (15; 9a) are also formed around the tappet guide holes (6; 3a). When cylinder head bolts are tightened to join the cylinder head with a cylinder block, a radiant tension (F) is generated from the cylinder head bolt heads which are in contact with the cylinder head top surface. This radiant tension would cause cracking around the injection nozzle hole (11; 8a). The grooves (18; 12a) interrupt transmission of the radiant tension to the vicinity of the injection nozzle hole to prevent occurrence of cracking. <IMAGE>

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**F02F 1/42**

IPC 8 full level  
**F02F 1/24** (2006.01); **F02F 1/42** (2006.01); **F02B 3/06** (2006.01)

CPC (source: EP US)  
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Citation (applicant)  
• JP H1043772 A 19980217 - HAZAMA GUMI  
• JP H1043773 A 19980217 - OGUCHI TOSHIHIRO, et al

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